Adding ultrasound to mammography could increase breast cancer detection in Asian women

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Adding ultrasound to standard mammography for breast screening could improve rates of breast cancer detection in Asian women, a Japanese study has found.

The incidence of breast cancer has been increasing steadily in Japan and other Asian countries over the past three decades. Asian women generally have higher density breast tissue than women from other ethnic groups, and the age specific incidence of breast cancer peaks at 40-49 years in Asian women compared with 60-69 years in non-Asian women. Unfortunately the effectiveness of mammography as a population breast screening tool is reduced in women with high density breast tissue and in young women.

Japanese researchers recruited 72 998 women aged between 40 and 49 years from 42 sites across Japan to participate in the J-START trial. Women were randomised to the usual mammography screening or mammography plus ultrasound testing at two screening sessions that took place over two years.

The results, published online in The Lancet, showed that ultrasound combined with mammography resulted in correct identification of cancer in more than 90% of cases (sensitivity 91.1%, 95% CI 87.2% to 95.0%), whereas mammography alone identified just over three quarters of cancers (77.0%, 70.3% to 83.7%; P=0.0004). However, the addition of ultrasound to mammography resulted in significantly more false positives than mammography alone (specificity 87.7%, 87.3% to 88.0% versus 91.4%, 91.1% to 91.7%; P<0.0001).

More cases of breast cancer were detected in the group that received ultrasound as well as mammography than in the group that received mammography alone (184 (0.50%) in the intervention group versus 117 (0.32%); P=0.0003). And more cancers were detected at stage 0 or 1 when ultrasound was added (144 cancers in the intervention group (71.3%) compared with 79 cancers in the control group (52.0%); P=0.0140).

Furthermore, fewer interval cancers (those picked up in the interval between the two screening sessions after a negative result at initial screening) were detected in the group that received ultrasound in addition to mammography than in the control group (18 (0.05%) compared with 35 (0.10%); P=0.034).

Norioi Ohuchi, from Tohoku University Graduate School of Medicine in Miyagi, Japan, who led the study, said, “Our results suggest that adding ultrasound to mammography results in more accurate screening results for women in Japan, which could ultimately lead to improved treatment and reduced deaths from the disease.

“Further work will now be needed to see if these results can be extended to other countries in Asia. In addition, long term follow-up of these results will determine whether including ultrasound tests in breast cancer screening ultimately affects the likelihood of successful treatment and survival, as we would expect.”


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